

ABSTRACT OF THE DISCLOSURE

A fabrication method for a damascene bit line contact plug. A semiconductor substrate has a first gate conductive structure, a second gate conductive structure and a source/drain region formed therebetween. A first conductive layer is formed in a space between the first gate conductive structure and the second gate conductive structure to be electrically connected to the source/drain region. An inter-layer dielectric with a planarized surface is formed to cover the first conductive layer, the first gate conductive structure, and the second gate conductive structure. A bit line contact hole is formed in the inter-layer dielectric to expose the top of the first conductive layer. A second conductive layer is formed in the bit line contact hole, in which the combination of the second conductive layer and the first conductive layer serves as a damascene bit line contact plug.